

Stack Colors in a Cup

By Grace Robinson

This experiment is only possible through density, which is the amount of matter in a substance (mass) per the space it takes up (volume).

Whatever is at the bottom of the cup has the greatest density, and whatever is at the top of the cup has the least density. Rate the liquids in your cup from greatest to least dense once you complete the experiment!



You will Need:

1 measuring cup

¼ Cup each of...

- dish soap
- honey
- rubbing alcohol
- canola oil
- maple syrup
- tap water

1 tall, clear, 16 oz. cup

3 colors of food coloring (to see clear liquids like water or rubbing alcohol)

Steps:

TIPS: Read before starting!

- **Pouring slowly and carefully will allow your layers to settle, which makes the layers look much nicer!**
- **Wash your measuring cup with soap and water after you pour each layer so none of the liquid from the layer you've just poured gets into the layer you're going to pour.**

1. Measure the $\frac{1}{4}$ cup of honey in the measuring cup. Pour into the cup.
2. Measure the $\frac{1}{4}$ cup of maple syrup. Pour into the cup, on top of the honey.
3. Measure the $\frac{1}{4}$ cup of dish soap. If it is clear dish soap, you may color it with a drop of food coloring of your choice. Stir to mix the color. Pour into the cup, on top of the maple syrup.
4. Measure the $\frac{1}{4}$ cup of tap water. Because the water is clear, you may color it with a drop of a different food coloring of your choice. Stir to mix the color. Tilt the cup and pour the water *slowly* and *carefully* down the **side** of the cup.
5. Measure the $\frac{1}{4}$ cup of canola oil. Tilt the cup and pour the oil *slowly* and *carefully* down the **side** of the cup.
6. Measure the $\frac{1}{4}$ cup of rubbing alcohol. Because the rubbing alcohol is clear, you may color it with a drop of another food coloring of your choice. Stir to mix the color. Tilt the cup and pour the rubbing alcohol *slowly* and *carefully* down the **side** of the cup.

You should now have a stack of liquids of different colors, with each layer separate from the rest!